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SIMBIOS Project 2003 Annual Report

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Chapter 1

An Overview of SIMBIOS Program Activities and Accomplishments

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1.1 INTRODUCTION

The SIMBIOS Program was conceived in 1994 as a result of a NASA management review of the agency's strategy for monitoring the bio-optical properties of the global ocean through space-based ocean color remote sensing. At that time, the NASA ocean color flight manifest included two data buy missions, the Sea-viewing Wide Field-of-view Sensor (SeaWiFS) and Earth Observing System (EOS) Color, and three sensors, two Moderate Resolution Imaging Spectroradiometers (MODIS) and the Multi-angle Imaging Spectro-Radiometer (MISR), scheduled for flight on the EOS-Terra and EOS-Aqua satellites. The review led to a decision that the international assemblage of ocean color satellite systems provided ample redundancy to assure continuous global coverage, with no need for the EOS Color mission. At the same time, it was noted that non-trivial technical difficulties attended the challenge (and opportunity) of combining ocean color data from this array of independent satellite systems to form consistent and accurate global bio-optical time series products. Thus, it was announced at the October 1994 EOS Interdisciplinary Working Group meeting that some of the resources budgeted for EOS Color should be redirected into an intercalibration and validation program (McClain *et al.*, 2002).

NASA Goddard Space Flight Center (GSFC) was directed to develop an intercalibration and validation program plan for submission to NASA Headquarters (HQ) by May 1995. This plan envisioned a Science Team funded by a NASA Research Announcement (NRA) (released in July 1996) and the SIMBIOS Project Office that was established at GSFC in January 1997. The initial SIMBIOS Program was scoped for five years (1997-2001) and included separate support for a science team and the Project Office. Dr. Mueller (San Diego State University) acted as an interim project manager at GSFC under a one-year assignment to assist in getting the project office organized and the science team contracts executed. During the second year of the SIMBIOS Project, Dr. McClain assumed project management for SeaWiFS and SIMBIOS, as both Dr. Cleave and Dr. Mueller stepped down in their roles as project managers of these two projects, respectively. In fall 1998, Dr. Fargion was hired as Deputy Project Manger to assist Dr. McClain.

In September 2000, Dr. McClain assumed new responsibilities in assisting HQ to develop a long-term program for global carbon cycle research. As a result, SeaWiFS and SIMBIOS Project Office were reorganized somewhat to allow Dr. McClain to focus on the carbon initiative. Dr. Feldman assumed management responsibilities for SeaWiFS and Dr. Fargion for SIMBIOS, respectively. Due to the success of the SIMBIOS Program combined with a strong collaboration with the US and international ocean communities, HQ release a second NRA (1999) and granted an extension of three years to the project. However, in 2002, NASA HQ decided to discontinue the program in its present form. The rationale centered on three considerations. The first was a desire by HQ to integrate the various ocean color calibration and validation activities of the SIMBIOS, SeaWiFS, and the MODIS programs under a common ocean color team which would also include investigators supported under the NASA Ocean Biogeochemistry program. While the three ocean color projects have separate management and funding structures, they have been coordinated and mutually supportive with little redundancy. The second consideration stems from initial problems with MODIS ocean data quality and accessibility which has made it imperative for NASA to focus its available resources on MODIS ocean calibration and validation.